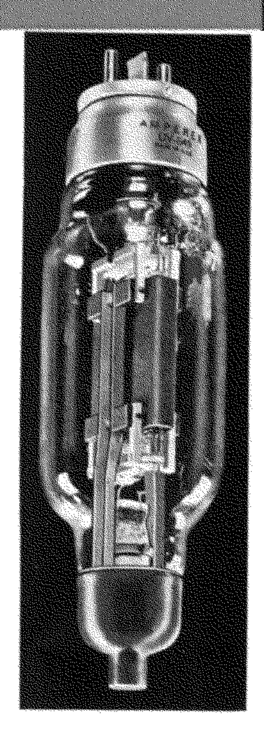


Three Electrode Air Cooled Vacuum Tube Modulator, Audio Frequency Power Amplifier, Radio Frequency Amplifier, Oscillator

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

A.F. Power Amplifier and Modulator—Class A

	Maximum Rating per Tube	Typical Operation One Tube		
A.C. Filament Voltage	—	11	11	11
D.C. Plate Voltage	3000	2500	3000	3000
D.C. Grid Voltage	—	−102	−132	−132
Peak A.F. Grid Voltage	—	96	126	126
D.C. Plate Current (ma.)	—	120	100	100
Plate Input (watts)	300	300	300	300
Plate Dissipation (watts)	300	—	—	—
Load Resistance (ohms)	—	12000	30000	18000
Power Output (watts)	—	81	75	100
Distortion (% Second Harmonic)	—	4.3	1.5	5

GENERAL CHARACTERISTICS

Filament Voltage	11
Filament Current (amps)	5
Direct Interelectrode Capacitances (Approx.)	
Grid to Plate	33 μμf
Grid to Filament	11 μμf
Plate to Filament	2 μμf

Average Characteristics at Plate Voltage of 3000 volts and grid bias of −132 volts.

Plate Current (ma.)	100
Amplification Factor	19
Plate Resistance (ohms)	3200
Grid to Plate Transconductance	6000 micromhos

A.F. Power Amplifier and Modulator—Class B

	Maximum Rating per Tube	Typical Operation Two Tubes			
A.C. Filament Voltage	—	11	11	11	11
D.C. Plate Voltage	3000	2000	2500	2500	3000
D.C. Grid Voltage	—	−90	−115	−115	−150
Load Resistance (ohms per tube)	—	1600	2600	2200	3200
Effective Load Resistance (Plate to Plate) (ohms)	—	6400	10400	8800	12800
Zero Signal Plate Current (ma.)	—	100	100	100	80
Peak A.F. Grid to Grid Voltage	—	420	450	470	500
Max. Signal Plate Current (ma.)	350	680	560	640	540
Max. Signal Plate Input (watts)	825	1360	1400	1600	1720
Plate Dissipation (watts)	300	—	—	—	—
Max. Signal Driving Power (Approx.) (watts)	—	8	11	10	7
Max. Signal Power Output (watts)	—	880	980	1100	1120

R.F. Power Amplifier—Class B—Telephony

(Carrier conditions for use with a maximum modulation factor of 1.0)

	Maximum Rating per Tube	Typical Operation One Tube		
A.C. Filament Voltage	—	11	11	11
D.C. Plate Voltage	2500	2000	2000	2500
D.C. Grid Voltage	—	−100	−100	−125
Peak R.F. Grid Voltage	—	130	150	140
D.C. Plate Current (ma.)	350	187	245	216
Plate Input (watts)	600	374	490	540
D.C. Grid Current (Approx.) (ma.)	—	5	8	2
R.F. Grid Current (amps.)	8	—	—	—
Plate Dissipation (watts)	400	242	317	360
Driving Power (at Modulation Peak) (Approx.) (watts)	—	10	20	9
Plate Power Output (watts)	—	132	173	180
F.C.C. Broadcast Rating (For Final Stage Use) (watts)	125	125	—	—

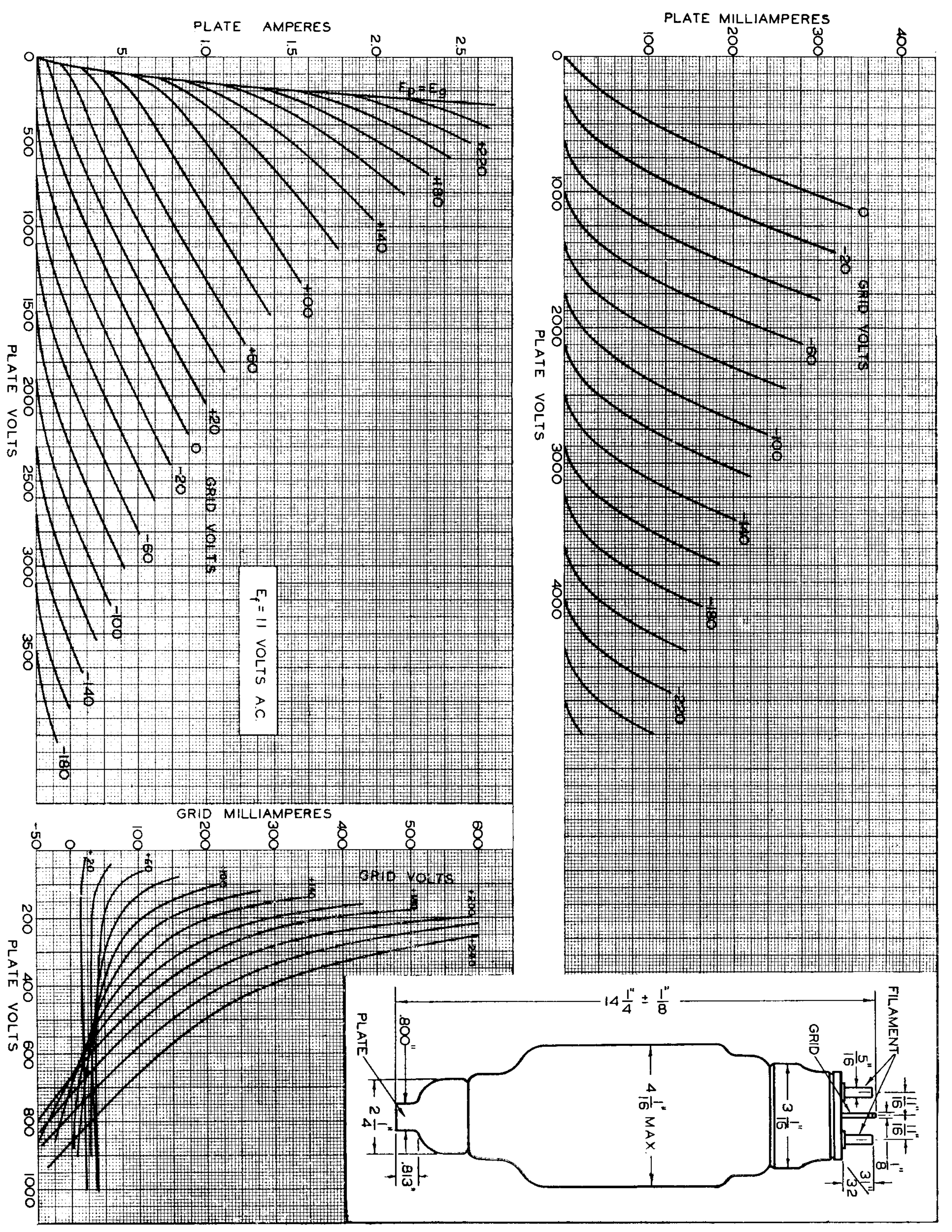
Plate Modulated R.F. Power Amplifier Class C—Telephony

(Carrier conditions for use with a maximum modulation factor of 1.0)

	Maximum Rating per Tube	Typical Operation One Tube	
A.C. Filament Voltage	—	11	11
D.C. Plate Voltage	2000	1500	2000
D.C. Grid Voltage	−500	−250	−300
Peak R.F. Grid Voltage	—	400	450
D.C. Plate Current (ma.)	350	278	300
Plate Input (watts)	700	417	600
D.C. Grid Current (Approx.) (ma.)	125	16	10
R.F. Grid Current (amps.)	8	—	—
Plate Dissipation (watts)	270	127	175
Driving Power (Approx.) (watts)	—	6	4
Plate Power Output (watts)	—	290	425
Frequency Limit for Above Operation (mc.)	3	—	—
F.C.C. Broadcast Rating (For Final Stage Use) (watts)	350	250	—

R.F. Power Amplifier and Oscillator—Class C Telegraphy

	Maximum Rating per Tube	Typical Operation One Tube	
A.C. Filament Voltage	—	11	11
D.C. Plate Voltage	2500	2000	2500
D.C. Grid Voltage	−500	−200	−250
Peak R.F. Grid Voltage	—	350	400
D.C. Plate Current (ma.)	350	340	350
Plate Input (watts)	875	680	875
D.C. Grid Current (Approx.) (ma.)	125	13	9
R.F. Grid Current (amps.)	10	—	—
Plate Dissipation (watts)	400	200	245
Driving Power (Approx.) (watts)	—	4	3
Plate Power Output (watts)	—	480	630
Frequency Limit for Above Operation (mc.)	3	—	—


PLATE MILLIAMPERES
PLATE VOLTS
GRID VOLTS
AMPEREX - 849
PLATE AMPERES
PLATE VOLTS
GRID VOLTS
Ef = 11 VOLTS A.C.
GRID MILLIAMPERES
GRID VOLTS
PLATE VOLTS
FILAMENT
GRID
PLATE
MAX.